

STEM EXAMINATIONS BOARD

PRE-MOCK ASSESSMENT SET IX, 2024

MATHEMATICS

Time Allowed: 2 hours 30 minutes

Random No.						Personal No.		

Candidate's Name:

Candidate's Signature:

District ID No:

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Read the following instructions carefully:

1. Do not write your **school or district name** anywhere on this paper.
2. This paper has **two** sections: **A** and **B**. Section **A** has **20** questions and Section **B** has **12** questions. The paper has **12 printed pages** altogether.
3. Answer **all** questions. **All** the working for both sections **A** and **B** must be shown in the spaces provided.
4. **All** working must be done using a **blue** or **black** ball point pen or ink. Any answer or work done in pencil other than graphs and diagrams will **not** be marked.
5. **No calculators** are allowed in examination room.
6. Unnecessary **changes** in your work and hand writing that cannot easily be read may lead to **loss** of marks.
7. Do **not** fill anything in the table indicated: "**For Examiners' Use Only**" and boxes inside the question paper.

FOR EXAMINERS' USE ONLY		
Qn. No.	Marks	EXR'S NO
1 - 5		
6 - 10		
11 - 15		
16 - 20		
21 - 22		
23 - 24		
25 - 26		
27 - 28		
29 - 30		
31 - 32		
TOTAL		

SECTION A : 40 MARKS.

Answer all questions in this section.

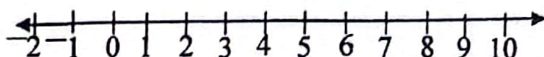
Questions 1 to 20 carry two marks each.

1. Use a number line below to work out;

$$\begin{array}{r} 3 \\ \times 3 \\ \hline \end{array}$$

2. Select all the triangular numerals from the list below;

20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30



3. Round off 889.96 to the nearest tenths.

4. The probability of picking a blue pen from the bag is $\frac{3}{5}$. If there are 9 blue pens, how many pens⁵ are in the bag altogether?

5. A motorcyclist drove at an average speed of 90km/hr. Express her speed to m/sec.

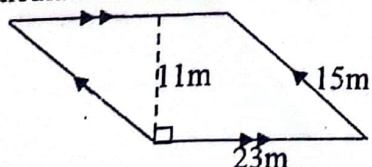
6. Lillian was facing East and turned anti-clockwise to face South. Through what angle did she turn?

7. Simplify: $2(y-3)-y+3$.

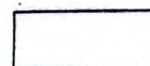


8. How many bags of 50kgs each are in 4.5 tonnes of posho?

9. Calculate the area of the figure below.



10. Nazil earns Shs. 112,000 in a fortnight, how much does he earn per day?



11. The sum of x , $x + 2$ and $x + 4$ consecutive even numbers is 36. Solve for the value of x .

12. What numeral has been expanded to give; $(4 \times 10^2) + (1 \times 10^0) + (4 \times 10^{-2})$?

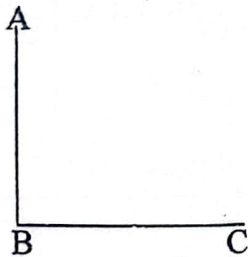
13. The price of a radio was increased by 10% to Shs. 55000. Calculate the original price of the radio.

14. Write 1080 in standard form.

15. Given that set Q has 16 subsets. Find $n(Q)$

16. Work out the mean of $3t$, 0, 5, 3 and $2t + 2$.

17. Using a ruler, a pencil and a pair of compasses only, bisect angle ABC drawn below.



19. If $2n - 5 = 3$ (finite 7). Find the smallest value of n .

18. Given that $m = 3$ and $p = \frac{3}{4}$, solve for $\frac{m}{p}$

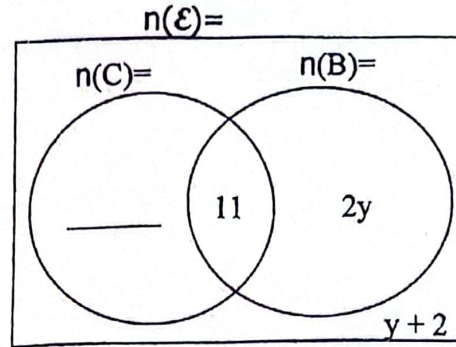
20. John borrowed 500 US dollars for a period of $\frac{1}{2}$ a year at an interest rate of 12% per annum. Calculate the interest he paid in dollars.

SECTION B : 60 MARKS.

Answer all questions in this section.

Marks for each question are indicated in the brackets.

21. At a candidate class trip, $2y$ candidates ate beef (B) only, 40 ate chicken (C), 11 candidates ate both chicken and beef while $y + 2$ ate neither of the two dishes.
(a) Use the given information to complete the Venn diagram below. (1 mark)



- (b) If 20 candidates did not eat chicken, solve for the value of y . (2 marks)
- (c) How many candidates went for the class trip? (2 marks)

22. Primah went shopping with 3-ten thousand shilling notes and bought the items shown in the bill table below.

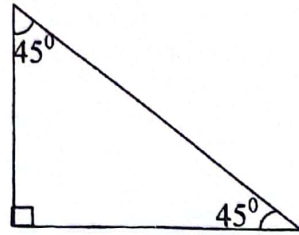
S/No	Item	Quantity	Unit cost	Total cost
(i)	Meat	$1\frac{1}{2}$ kgs	Shs. 12000@kg	Shs.
(ii)	Onions	3 heaps	Shs.a heap	Shs. 3000
(iii)	Saltgms	Shs. 2000 per kg	Shs.
(iv)	Total expenditure			Shs. 22,000

- (a) Complete the bill table above. (4 marks)

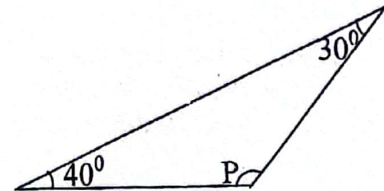
(b) Calculate Primah's change.

(2 marks)

23. (a) How many lines of folding symmetry has the figure below? (2 marks)



- (b) Find the size of angle p in degrees. (2 marks)



24. A teacher left home at 6:15a.m and arrived school at 8:45a.m travelling at a speed of 80km/hr.

- (a) Work out the time she took to arrive school. (2 marks)
- (b) How far is her home from school? (2 marks)

25. A family used $\frac{1}{3}$ of water in the tank. If 2000 litres remained in the tank;

- (a) What is $\frac{1}{4}$ of the remaining fraction of water in the tank? (2 marks)
- (b) Find the capacity of the tank. (3 marks)

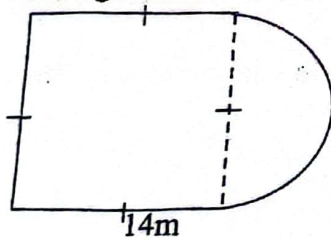
26. (a) Work out:
$$\begin{array}{r} 401_{\text{five}} \\ - 33_{\text{five}} \\ \hline \end{array}$$

(2 marks)

(b) Given that $3^n \times 9 = 81$. Solve for n .
(2 marks)

- (c) Electricity poles were fixed in a straight line along side a road at intervals of 12 metres to cover a distance of 1188 metres.
How many poles were fixed altogether? (2 marks)

27. The figure below shows a school compound.



- (a) Find the area of the figure. (3 marks)

- (b) Calculate the total distance round the figure above. (3 marks)

28. With the help of a ruler, a pencil and a pair of compasses only, construct an equilateral triangle using a radius of 4cm. (5 marks)

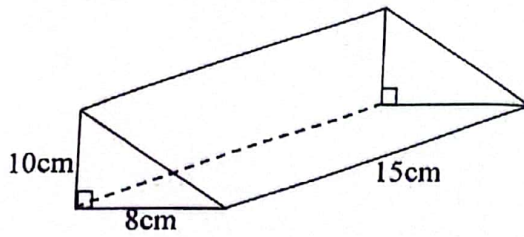
29. (a) Abdul is 17 years younger than Annet who is $(t + 23)$ years old. How old is Abdul? (2 marks)

- (b) Solve for n ; $3n - 10 = n$. (2 marks)

30. (a) Express $\frac{7}{11}$ as a decimal. (2 marks)

- (b) Arrange 0.8, 0.08, 8.8 and 0.88 in ascending order. (3 marks)

31. The figure below is a prism.



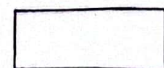
- (a) Draw a net of the prism above. (2 marks)
- (b) Work out the volume of the prism above. (2 marks)

32. A parent distributed money to his son, daughter and saved the rest as below;

- (i) The son got $\frac{1}{3}$ of the money.
- (ii) The daughter got $\frac{1}{2}$ of the money.
- (iii) He saved the rest for family.

Represent the above information on an accurate pie-chart of radius 3.5cm.

(6 marks)



END